

LISTING OF CLAIMS

1. (Previously Presented) A process for fabricating an electronic integrated circuit comprising:

a) forming, on a substrate of the circuit, of which a part is composed of absorbing material, a portion made of a sacrificial material coming into contact with one face of the part of the substrate composed of absorbing material;

b) forming a rigid portion in fixed contact with the substrate, on one side of the portion of sacrificial material opposite to said face of the part of the substrate composed of absorbing material; and

c) heating the circuit in order to create a volume substantially empty of material by absorption of the sacrificial material into the part of the substrate composed of absorbing material,

wherein the sacrificial material has a melting point in excess of 900°C and wherein the sacrificial material is chosen so as not to cause any material alteration of parts of the circuit in contact with the portion of sacrificial material prior to c) heating.

2. (Previously Presented) The process according to Claim 1, wherein the sacrificial material includes cobalt, nickel, titanium, tantalum, tungsten, molybdenum, silver, gold, iron and/or chromium.

3. (Previously Presented) The process according to Claim 1, wherein the absorbing material includes silicon, germanium, phosphorus, arsenic and/or antimony.

4. (Previously Presented) The process according to Claim 1, wherein the portion of sacrificial material is formed in a cavity below the level of a surface of the substrate.

5. (Previously Presented) The process according to Claim 1, wherein, at c) heating, the absorption of the sacrificial material into the part of the substrate composed of absorbing material results from a chemical reaction between the sacrificial material and the absorbing material.

6. (Previously Presented) The process according to Claim 1, wherein said volume substantially empty of material has a large cross section substantially parallel to a surface of the substrate.

7. (Previously Presented) The process according to Claim 1, further comprising, between a) forming and b) forming, forming of an intermediate layer, said intermediate layer being located, when b) forming is complete, between the portion of sacrificial material and the rigid portion.

8. (Previously Presented) The process according to Claim 1, wherein the volume substantially empty of material is situated between two electrodes of a capacitor belonging to said circuit.

9. (Previously Presented) The process according to Claim 8, wherein the rigid portion comprises a first electrode of the capacitor.

10. (Previously Presented) The process according to Claim 8, wherein the part of the substrate composed of absorbing material, after absorbing the sacrificial material in c) heating, comprises a second electrode of the capacitor.

11. (Previously Presented) The process according to Claim 8, wherein at least one of the two electrodes has a main surface substantially parallel to a substrate surface.

Claims 12-13. (Canceled)

14. (Previously Presented) A process for forming an integrated circuit, comprising:
forming a cavity in an absorbing material layer;
depositing a sacrificial layer in the cavity, the sacrificial layer having a melting point in excess of a temperature used for integrated circuit component fabrication heating;
filling the cavity with a fill material; and
heating the integrated circuit to a temperature sufficient to cause the sacrificial layer to be absorbed into the absorbing material layer and leave a void between the absorbing material layer and the fill material.

15. (Previously Presented) The process of claim 14 wherein the absorbing material layer is a semiconductor substrate layer.

16. (Withdrawn) The process of claim 14 wherein the absorbing material layer is a layer above a semiconductor substrate layer.

17. (Previously Presented) The process of claim 14 wherein circuit component fabrication heating comprises integrated circuit heat densification.

18. (Previously Presented) The process of claim 14 wherein heating comprises using the heating step to not only cause the sacrificial layer to be absorbed but also to drive silicidation of the integrated circuit.

19. (Currently Amended) The process of claim 14, wherein the sacrificial layer includes a material selected from the group consisting of cobalt, nickel, titanium, ~~tantalum~~, tungsten, molybdenum, silver, gold, and iron ~~and chromium~~.

20. (Previously Presented) The process of claim 14, wherein the absorbing material layer includes a material selected from the group consisting of silicon, germanium, phosphorus, arsenic and antimony.

21. (Previously Presented) The process of claim 14 wherein the fill layer comprises an intermediate layer and an electrically conducting layer.

Claims 22-32. (Canceled).

33. (Withdrawn – Rejoinder Requested) A process for fabricating an electronic integrated circuit comprising:

forming a substrate including an absorbing material part;

forming a sacrificial material portion in contact with a face of the absorbing material part of the substrate;

forming a rigid portion in fixed contact with the substrate on one side of the portion of sacrificial material opposite to said face of the absorbing material part; and

heating the circuit to cause absorption of the sacrificial material into the absorbing material part so as to leave a volume substantially empty of material;

wherein the sacrificial material portion has a melting point in excess of a temperature used to form parts of the electronic integrated circuit and wherein the absorption of the sacrificial material does not cause a material alteration electronic integrated circuit parts which are in contact with the sacrificial material portion prior to heating.

34. (Withdrawn – Rejoinder Requested) The process according to Claim 33, wherein the sacrificial material is a material selected from the group consisting of cobalt, nickel, titanium, tantalum, tungsten, molybdenum, silver, gold, iron and/or chromium.

35 (Withdrawn – Rejoinder Requested) The process according to Claim 33, wherein the absorbing material is selected from the group consisting of silicon, germanium, phosphorus, arsenic and/or antimony.

36. (Withdrawn – Rejoinder Requested) The process according to Claim 33, wherein the portion of sacrificial material is formed in a cavity below the level of a surface of the substrate.

37. (Withdrawn – Rejoinder Requested) The process according to Claim 33, wherein heating causes a chemical reaction between the sacrificial material and the absorbing material.

38. (Withdrawn – Rejoinder Requested) The process according to Claim 33, wherein said volume substantially empty of material has a larger cross section which is substantially parallel to a surface of the substrate.

39. (Withdrawn – Rejoinder Requested) The process according to Claim 33, further comprising forming an intermediate layer located between the portion of sacrificial material and the rigid portion.

40. (Withdrawn – Rejoinder Requested) The process according to Claim 33, wherein the volume substantially empty of material is situated between two electrodes of a capacitor belonging to said circuit.

41. (Withdrawn – Rejoinder Requested) The process according to Claim 40, wherein the rigid portion comprises a first electrode of the capacitor.

42. (Withdrawn – Rejoinder Requested) The process according to Claim 40, wherein the part of the substrate composed of absorbing material which has absorbed the sacrificial material comprises a second electrode of the capacitor.

43. (Withdrawn – Rejoinder Requested) The process according to Claim 40, wherein at least one of the two electrodes has a main surface substantially parallel to a substrate surface.

44. (New) A process for fabricating an electronic integrated circuit comprising:
- a) forming, on a substrate of the circuit, of which a part is composed of absorbing material, a portion made of a sacrificial material coming into contact with one face of the part of the substrate composed of absorbing material;
 - b) forming a rigid portion in fixed contact with the substrate, on one side of the portion of sacrificial material opposite to said face of the part of the substrate composed of absorbing material; and
 - c) heating the circuit in order to create a volume substantially empty of material by absorption of the sacrificial material into the part of the substrate composed of absorbing material,
- wherein the sacrificial material has a melting point in excess of 600°C.

45. (New) The process according to Claim 44, wherein the sacrificial material includes a material selected from the group consisting of cobalt, nickel or titanium.

46. (New) The process according to Claim 44, wherein the sacrificial material includes a material selected from the group consisting of tungsten, molybdenum, silver, gold or iron.

47. (New) The process according to Claim 44, wherein the sacrificial material has a melting point in excess of 700°C.

48. (New) The process according to Claim 44, wherein the sacrificial material has a melting point in excess of 900°C.

49. (New) A process for forming an integrated circuit, comprising:
forming a cavity in an absorbing material layer;
depositing a sacrificial layer in the cavity, the sacrificial layer having a melting point in excess of 600°C;
filling the cavity with a fill material; and
heating the integrated circuit to a temperature sufficient to cause the sacrificial layer to be absorbed into the absorbing material layer and leave a void between the absorbing material layer and the fill material.
50. (New) The process of claim 49 wherein the absorbing material layer is a semiconductor substrate layer.
51. (New - Withdrawn) The process of claim 49 wherein the absorbing material layer is a layer above a semiconductor substrate layer.
52. (New) The process of claim 49, wherein the sacrificial material has a melting point in excess of 700°C.
53. (New) The process of claim 49, wherein the sacrificial material has a melting point in excess of 900°C.
54. (New) The process of claim 49, wherein the sacrificial material includes a material selected from the group consisting of cobalt, nickel or titanium.
55. (New) The process of claim 49, wherein the sacrificial material includes a material selected from the group consisting of tungsten, molybdenum, silver, gold or iron.